

**REMARKS**

Applicants acknowledge receipt of an Office Action dated March 24, 2003. In this response Applicants have amended claim 10. Support for these amendments may be found in the specification, *inter alia*, at paragraph [0027] and the figures. Following entry of these amendments, claims 1-5, 7, 8, 10-12 and 14-23 are pending in the application. The PTO has withdrawn claims 17 and 21 from consideration.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

**Rejections Under 35 U.S.C. §112, 2<sup>nd</sup> Paragraph**

On page 2 of the Office Action, the PTO has rejected claims 10, 11, 18 and 23 under 35 U.S.C. §112, 2<sup>nd</sup> paragraph as allegedly being indefinite. Applicants respectfully traverse this rejection for the reasons set forth below.

With regard to claim 11, it appears as though the PTO may have overlooked the discussion of beaded tubes in paragraph [0035] of the disclosure. Paragraph [0035] states that "[c]ombinations of the various embodiments are, of course, also contemplated." Paragraph [0035] continues, "[i]n this case, for example, the values relating to the tube may be related to one face of a beaded tube, separated by a longitudinal bead." In view of this discussion in the specification, Applicants submit that claim 11 is clear and definite.

With regard to claims 10, 18 and 23, Applicants have amended claim 10 to specify that the angle is measured "with respect to a line transverse to the tube longitudinal axis". Claim 23 depends from claim 10. With particular regard to claim 18, it appears as though the PTO overlooked the language "with respect to a line transverse to the tube longitudinal axis". Since these claims all specify that the angle is measured "with respect to a line transverse to the tube longitudinal axis", Applicants submit that each of these claims is clear and definite.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections under 35 U.S.C. §112, 2<sup>nd</sup> paragraph.

### **Rejections Under 35 U.S.C. §103**

On page 3 of the Office Action, the PTO has rejected claims 1-5, 7, 8, 12, 14-16 and 19-20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,070,616 to Beck *et al.* (hereafter "Beck") in view of U.S. Patent 4,470,452 to Rhodes (hereafter "Rhodes") and further in view of U.S. Patent 6,321,835 to Damsohn *et al.* (hereafter "Damsohn"). In addition, on page 5 of the Office Action, the PTO has rejected claims 10, 18, 22 and 23 under 35 U.S.C. §103(a) as being unpatentable over Beck in view of Rhodes in further in view of Damsohn and further in view of U.S. Patent 3,664,928 to Robert. Applicants respectfully traverse these rejections for the reasons set forth below.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1974). See MPEP §2143.03. In the response dated May 29, 2002, Applicants amended claim 1. The primary reference cited by the PTO, Beck, fails to disclose or fairly suggest a heat exchanger for a motor vehicle:

***“(v) wherein the ratio of  
the distance between the first flat face and the second flat face of the vortex  
generator rows in the direction of the tube longitudinal axis  
to the height of the vortex generators is approximately 10 to 30”***

as recited in amended claim 1. Further, none of the secondary references, e.g. Rhodes, Damsohn and/or Roberts, taken either alone or in fair combination with Beck, resolves this basic deficiency.

The PTO continues to take the position that Rhodes discloses that a ratio of (i) the longitudinal spacing between the vortex generator row on a first flat surface and the vortex generator row on a second flat surface to (ii) the height of the vortex generator is about 7. On page 2 of the Office action, the PTO has stated that "Figure 6 is a side view of the tube viewed in figure 3". This statement does not appear to be entirely correct inasmuch as Rhodes states, in line 1 of column 3, that "Fig. 6 is a view taken along the line VI-VI of Fig.

5". Figure 5 of Rhodes depicts flow diverting members arranged *directly* across from each other. Thus the offset between the row on the row on the surface is equal to 0, and the ratio of the longitudinal spacing to the rows to the height of the flow diverting member must necessarily be 0.

Further, Applicants submit that the PTO has improperly, and in contradiction to MPEP §2125, attempted to rely on measurements taken from the drawings of Rhodes. MPEP §2125 states that "proportions of features in a drawing are not evidence of actual proportions when drawings are not to scale." When the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of drawing features are of little value. See *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956. The MPEP also quotes a passage of the CCPA's decision in *In re Wright*, 569 F.2d 1124, for the proposition that it is improper to rely on relative proportions shown in the drawings. Applicants acknowledge the PTO's citation of 37 C.F.R. 1.84(k)(3) which states that elements of the same view must be in proportion to each other, unless a difference in proportion is indispensable for the clarity of the view". Applicants note that this rule relates to applications filed *today* and not necessarily to applications filed well over 20 years ago. Applicants further note that 37 C.F.R. 1.84(k)(3) does not require that *all* drawings be in proportion (note that "unless" clause), and the reference does not state that the drawings are in proportion. Thus, Applicants submit that the PTO's citation of 37 C.F.R. 1.84(k)(3) is improper, and, even if it were proper, the reasoning given is fundamentally flawed.

Finally, Applicants submit that the even if the PTO's measurement were proper, the PTO has combined 3 references and still has not found all of the features of independent claim 1. Specifically, the ratio of 7 cited by the PTO fall outside the claimed rang of ratios of 10 to 30.

Since, none of the references, taken either individually or in fair combination, teaches or suggests the claimed ratio of "a" to "h" in feature (v) of claim 1, Applicants submit that the outstanding rejection of claim 1 under 35 U.S.C. §103(a) is improper and ought to be withdrawn.

Where an independent claim is nonobvious under §103, then any claim depending therefrom is also nonobvious. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988). See MPEP

§2143.03. Thus, Applicants submit that claims 2-5, 7, 8, 10-12 and 14-23, which depend directly or indirectly independent claim 1, are also non-obvious.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejections under §103.

**CONCLUSION**

In view of the foregoing amendments and remarks, Applicants respectfully submit that all of the pending claims are now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, the Examiner is invited to contact the undersigned at the number below.

Respectfully submitted,

Date September 24, 2003

By 

FOLEY & LARDNER  
Customer Number: 22428



**22428**

PATENT TRADEMARK OFFICE

Telephone: (202) 672-5414

Facsimile: (202) 672-5399

Richard L. Schwaab  
Attorney for Applicant  
Registration No. 25,479

Paul D. Strain  
Agent for Applicant  
Registration No. 47,369

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicants hereby petition for any needed extension of time.